



# Ø BEAT

COLO. SPRINGS,  
COLORADO

SEPTEMBER 1969

## SEMIANNUAL AUCTION, NOMINATIONS FEATURES OF SEPTEMBER 10 MEET

The semiannual PPRAA auction of used electronic gear and nominations for candidates for the four board of directors vacancies to be voted on at the October meeting will be the features of the September 10 PPRAA meeting, starting at 7:30 p.m. at the U. S. Naval Reserve Training Center, Lake and Logan streets.

A story on the nominations appears on this page.

As in past auctions, persons with items to sell should bring them, tagged with their name (and if there is a minimum acceptable price, it should be indicated. Ten per cent of the sale price will be retained by the club ---the balance will go to the seller.

Persons in the "buying mood" should be well equipped with plenty of that "folding green"---past experience has shown that they will walk away with items worth much more than they cost.

It is presumed that those two persuasive accomplished auctioners of past auctions---Pete Demario, KØUDG, and Bill "Penny Pincher" Haskin, KØCEN, will be on hand see that the best possible price is bid on each of the items offered for sale.

## NOMINATIONS FOR FOUR DIRECTORS TO BE MADE AT MEETING

The report of a nominating committee to propose a list of eligible members to be balloted on at the annual PPRAA meeting in October is due at the September meeting according to Section 2, Article VII of the PPRAA constitution.

This section states that "This list shall constitute at least six eligible members of the association plus the names of the four directors whose terms are expiring."

The four members of the board whose terms expire are Rosemarie Lewis, WAØ-MNL; Rudy Wroblewski, WAØPJG; Harold Combs, WAØPNR, and Ed Pomea, KØZPG.

In addition to the nominations by the committee, and those made at the September meeting, the section of the constitution provides that "the secretary shall receive nominations made in writing and such nominations shall bear the signature of at least three voting members in good standing, provided such nominations shall be delivered to the secretary more than twenty days prior to the date of the annual meeting." (The annual meeting will be October 8, so nominations of this type must reach the secretary not later than September 18.)

## ZERO BEAT

Published monthly in the interest of the members of the Pikes Peak Radio Amateur Association, Inc., Colorado Springs, Colo.

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The PPRAA meets the second Wednesday of each month in the U. S. Naval Reserve Training Center, Lake and Logan Streets, starting at 7:30 p. m. All radio amateurs and other interested persons are invited to attend. Secretary's address: 2018 W. Uintah St. Colorado Springs, Colo. 89904.

COPY DEADLINE FOR OCTOBER ZERO BEAT will be September 24.

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## Editorial

## WHAT ARE YOU DOING?

In browsing through the files of Zero Beat, we came across an editorial in the April 1962 issue that is as pertinent today as it was when it was first published. With thanks to Mike Schmidt, KØEVP, who was editor at that time, we are reprinting it as the editorial for this month.

"What are you doing for the PPRAA? This is the question of the month. . .

"It has been noticed that the attendance of our monthly meetings has been getting slimmer each month. What are you doing to improve this? Do you tell your new Ham friends who have recently arrived in the area that we have a Ham Club? Well if you haven't do it today. Let's get together and make our club something that every citizen of this area will be aware of.

"Good advertisement by way of a service performed by any member of the PPRAA to the community will pay off with many dividends. Make your contribution today. Let your neighbors know that you are available to assist them in time of need and invite them to visit with you some evening, and explain the workings of your hobby to them. You will be surprised how many different ideas they had about you before you explained what all the noise,

## BOARD OF DIRECTORS

Pres. - Pete Demario, KØUDG  
Vice Pres. - Er Pompea, KØZPG  
Secty. - Rosemarie Lewis, WAØMNL  
Treas. - Rudy Wroblewski, WAØPJG

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Harold Combs, WAØPNR  
Eldon Lewis, WAØERA  
Bill King, WØLKD  
Frank Craw, WØHWH

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etc., was that they usually hear when walking by your QTH. If they have been experiencing TVI you must make every effort to clear up their problems even if you are not the offender. Otherwise they will go on thinking you are to blame.

"Help your organization by attending every meeting, and bring along a friend each time.

"Let your club paper, the Zero Beat, speak for you by giving it your full support and become active with a contribution--each month to the editor."

Need we add more?

-o-

According to news from California, the pressure applied by hams in that state on state legislators blocked a raise in cost of call letter plates from \$3 a year to \$20 for the first year the plate was issued and \$10 for each subsequent year it was used, plus \$20 if the car was transferred to another owner.

California hams were lucky--they found out about the contemplated raise in time to block action before the raise. However, a lot of pressure by Colorado hams on legislators might well result in rescinding of the raise on Colorado plates.

Have YOU written your legislator(s)?

---Frank, WØHWH

## REPORT OF NOMINATING COMMITTEE

The following members of the PPRAA are nominated, in addition to the members whose terms are expiring, for consideration as members of the Board of Directors of the PPRAA at the October election.

Jerry Bishop, WØICQ

Julian "Doc" D. Cornell, WØMCT

John Felix, KØSLN

Dean Jaynes, WAØPHJ

John T. Kester, WAØLVL

Jim Kieffaber, KØSPS

Charles "Chuck" Myers, WAØZCS

Steve Parker, WAØSIZ

Oakley Stockton, KØROL

Darrel D. Vogt, WAØUGW

Nominating Committee

Bill King, WØLKD

John Summers, WAØHHN

Frank Craw, WØHWH

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## ROSIE'S

## REPORTINGS

By Rosemarie Lewis, WAØMNL

Our editor, Frank Craw, WØHWH, suffered a serious bout with a virus in August that kept him off work for a week, with orders from the doctor to restrict his activities for the next five or six weeks. Frank didn't apply the restriction to Zero Beat--in spite of having to finish it during the visit of his mother from Portland, Oregon.

Steven, young son of George Kowalski, WØGCH, and XYL, Shirley, was recently bitten by a rattlesnake. It happened at the home QTH. The quick first aid administered by Shirley is credited with Steven's recovery. He was in the hospital on the critical list but is now recovered and feeling fine.

-rr-

Rudy Wroblewski, WAØPJG, and XYL Frieda will attend the motel convention in Glenwood Springs. Frieda is making slow recovery from an injury to her ribs.

-rr-

It's a small world. When Bill King, WØLKD, dropped in at the QTH of Frank Craw, WØHWH, recently to discuss nominations for the Board of Directors, Frank started to introduce him to his XYL, Midori. Bill told her: "I know you--eleven years ago you and my wife Anne had adjoining beds in a ward in Fitzsimons General Hospital in Denver."

-rr-

Activity of nets has slowed down as par for summer vacation time. Quite a bit of QTC for the hurricane area has been sent from this area.

-rr-

After our stay at Boy Scout camp, Jerry and I took a bus to California, to be later joined by Eldon, WAØERA. We visited the

(Continued on Page 4)

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## UNDERSTANDING TRANSISTORS

By Jim White, Assoc. Mem. M. E. M. E.

(This is the second in a series of lessons on transistors written by Jim White, ex-GM8KR, formerly of Scotland and now teaching in California, which originally appeared in the Tulare County (Calif.) Amateur Radio Club "Grid Leak," which are being reprinted from the Central California Radio Club "Circle." ---Editor)

### Lesson 2

Germanium Crystals in semi-conductor materials require certain desirable characteristics. Purity of the basic material is one desirable trait and also regularity of the crystal structure must be adhered to if the final product is to attain high quality in final production.

Single crystal growth is one of the best methods of obtaining crystals with a high degree of regularity. The method used is called crystal pulling. A small seed crystal, which is a single crystal, is lowered into a chamber in which all air has been evacuated and replaced with an inert gas such as argon. Heat is applied by a RF source and the single crystal is lowered gently until it comes in contact with a graphite crucible in which the basic material has been melted. As the seed crystal touches the melted basic material it is raised and at the same time rotated by mechanical means and as the seed crystal is at a lower temperature than the melted basic material, the melt solidifies onto the seed and the atoms of the basic material arrange themselves in the same direction as the elementary structure of the seed.

Typical speeds of rotation are in the region of 70 to 90 rpm and the upward pull is at the rate between 0.4 inches to 2.5 inches per hour. The finished crystals are approximately 0.75 inches in diameter by approximately 9.0 inches long. This basic material requires a doping agent added during the melting process if a P type or N type material is required as would be the case for transistor construction.

Let us now look at our finished component, THE TRANSISTOR. In comparing the transistor to vacuum tubes, while there are some similarities, there are also some very marked differences. It would be fair to say that one of the largest differences is that the tube is a voltage operated device and the transistor is a current operated device.

One of the basic rules in a transistor is that current must flow in the base-emitter circuit before current can flow in the emitter-collector circuit. Another basic rule is that a tube does not normally consume power in the input circuit, whereas a transistor, due to its low input impedance (resistance), does so in most cases, therefore we can say that transistors load and consume power from preceding stages while tubes normally do not. This particular aspect of transistors can lead to hair-pulling and frustration when servicing transistor equipment, since a problem in one stage can be reflected back to preceding stages. Further basic differences between tube and transistor operation can be seen when we consider the biasing of the two devices.

In the next lesson we shall discuss this important function.

(Lesson 3 will appear next month)

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### ROSIE'S REPORTINGS

(Continued from Page 3)

QTH of son Larry, WA6BGG and his XYL, Bonnie, WA6KQX. They are looking forward to a Colorado trip the first part of October. Due to QTH location, they do very little operating, preferring the mountain top during a VFH contest. Larry has been playing bass guitar in a group. We saw the tourist sights and while waiting for a bus poked around in radio stores. Coming home, took an eight hour stopover in Reno, Nevada---not to see the radio shops but to view the electronics of mechanical machine there. Eldon got lucky figuring them out---helped pay for the trip.

## TO BE A FMer's WIFE IS TO:

Wonder where to put the groceries in the trunk of your Mustang when a two case rig has been installed.

Get speared in the basement by a 432 antenna being prepared for desk top operation.

Run your last pair of good stockings on the two meter rig that takes up "just a little space" under the dash.

Serve cold suppers because a final final final really isn't.

See more of your basement than your upstairs if you want to see more of your husband.

Knit knee warmers to wear in the basement.

Know the answers for telephone TVI complaints.

Know what mail is important (FM magazines, FM ads, FM catalogs) and what is unimportant (bills for electricity, gas, etc.)

Be able to smile and look interested when your husband tells you how great his new 41-V is. (Whatever that it.)

Be able to smile and look like you believe it when he tells you what a bargain it was.

Be able to smile when you write the check.

Know which tone of "gosh darn" means

to stay away and which tone means to come here quick and hold this soldering iron.

Hug him and say "That's great, dear" when he shows you the schematic of his new super oscillating blurb.

Grin and bear it when he digs up your best rose bush because that's the place for the base of his new antenna, and besides your roses look so much better where I transplanted them. (Behind the garage.)

Look concerned and say tsk, tsk, when he tells you about the squeak in his squelch.

To love him with, without, because of, and in spite of FM radio.

(Extracted from FM Magazine by Bill King, WØLKD.)

-O-O-O-O-

COMMUNICATIONS PROVIDED FOR  
PIKES PEAK MARATHON

By Bill King, WØLKD

Another foot race to the clouds is now history for the young and the old and it seems the two meter FM communications provided by the PPRAA was a success.

I received notification from Oak Stockton, KØROL, the Saturday before the marathon that I was supposed to provide communications. Being atop Methodist Peak, south of Salida, Colorado, I felt a little helpless as I knew there'd be no time for preparation.

I provided communications from atop  
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**CW**

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## PIKES PEAK MARATHON

(Continued from Page 5)

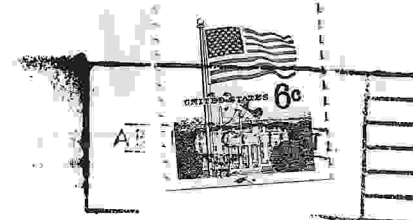
the Peak and Barry Mitchell, K3WKV, provided communications at the finish line. Jerry Bishop, WØICQ, must have felt a little frustrated on his motorcycle along the trail, being able to receive on one of the handie talkies but being unable to transmit.

Assistance was rendered by WAØER, WAØMNM, KØUDG, WAØMNL, W7CCA, WAØPJG, WØGCH, KØROL, WAØUZO and KØYFR. Many thanks.

Sure was a surprise to have a direct contact with WA7JIY in Cheyenne, Wyoming, with the 10 watt mobile from the Peak. What a repeater site this would make for the 2 meter FMers!

## ZERO BEAT EDITOR

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